WHAT IS CLAIMED IS:

1. A system for handling microcomponent parts, said system comprising:

substrate comprising a plurality of micro-devices that are each operable to perform a distinct rotational operation for rotating a microcomponent part presented thereto, wherein at least one of said plurality of micro-devices is operable to perform a rotational operation about an axis of rotation that is different than an axis of rotation about which another of said plurality of micro-devices is operable to perform a rotational operation.

2. The system of claim 1 wherein said plurality of micro-devices are arranged on said substrate at distinct sites.

3. The system of claim 2 wherein said distinct sites are accessible to receive said microcomponent part.

4. The system of claim 1 wherein at least one of said plurality of micro-devices is operable to rotate a microcomponent part presented thereto about an axis of rotation that is parallel to said substrate.

5. The system of claim 4 wherein said at least one of said plurality of micro-devices is operable to perform bi-directional rotation of said microcomponent part presented thereto about said axis of rotation that is parallel to said substrate.

6. The system of claim 1 wherein at least one of said plurality of micro-devices is operable to rotate a microcomponent part presented thereto about an axis of rotation that is perpendicular to said substrate.

7. The system of claim 6 wherein said at least one of said plurality of micro-devices is operable to perform bi-directional rotation of said microcomponent part presented thereto about said axis of rotation that is perpendicular to said substrate.

8. The system of claim 1 wherein a plane formed by an X axis and a Y axis is parallel to said substrate, a Z axis is perpendicular to said plane, and wherein said plurality of micro-devices are each operable to perform a distinct rotational operation of a type selected from the group consisting of:

rotation about said Z axis (θ rotation), rotation about said X axis (φ rotation), and rotation about said Y axis (ψ rotation).

9. The system of claim 1 wherein a plane formed by an X axis and a Y axis is parallel to said substrate, a Z axis is perpendicular to said plane, and wherein said plurality of micro-devices are operable to perform rotation of a microcomponent part presented thereto about said Z axis (θ rotation), rotation of said microcomponent part presented thereto about said X axis (φ rotation), and rotation of said microcomponent part presented thereto about said Y axis (ψ rotation).

10. The system of claim 9 wherein said plurality of micro-devices are operable to perform bi-directional rotation of said microcomponent part presented thereto about said Z axis ($\pm\theta$ rotation), about said X axis ($\pm\varphi$ rotation), and about said Y axis ($\pm\psi$ rotation).

11. The system of claim 1 wherein at least one of said plurality of micro-devices is operable to grasp a microcomponent part presented thereto and rotate said microcomponent part about a rotational axis that is perpendicular to said substrate.

12. The system of claim 11 wherein said at least one of said plurality of micro-devices is operable to hold said microcomponent part presented thereto above said substrate.

13. The system of claim 1 wherein said substrate further comprises at least one assembly site at which at least one microcomponent part presented to at least one of said plurality of micro-devices may be assembled with another part.

14. A system for handling microcomponent parts, said system comprising:

substrate comprising a plurality of micro-devices, wherein a first of said plurality of micro-devices is operable to perform a first type of rotation of a microcomponent part presented thereto and a second of said plurality of micro-devices is operable to perform a second type of rotation of a microcomponent part presented thereto that is different than said first type of rotation.

15. The system of claim 14 wherein a plane formed by an X axis and a Y axis is parallel to said substrate, a Z axis is perpendicular to said plane, and wherein said first type of rotation and said second type of rotation each comprise at least one of the following:

rotation about said Z axis (θ rotation), rotation about said X axis (φ rotation), and rotation about said Y axis (ψ rotation).

16. The system of claim 14 wherein a plane formed by an X axis and a Y axis is parallel to said substrate, a Z axis is perpendicular to said plane, and wherein said plurality of micro-devices are operable to perform rotation of a microcomponent part presented thereto about said Z axis (θ rotation), rotation of said microcomponent part presented thereto about said X axis (φ rotation), and rotation of said microcomponent part presented thereto about said Y axis (ψ rotation).

17. The system of claim 16 wherein said plurality of micro-devices are operable to perform bi-directional rotation of said microcomponent part presented thereto about said Z axis ($\pm\theta$ rotation), about said X axis ($\pm\varphi$ rotation), and about said Y axis ($\pm\psi$ rotation).

18. The system of claim 14 wherein at least one of said plurality of micro-devices is operable to rotate a microcomponent part presented thereto about an axis of rotation that is parallel to said substrate.

19. The system of claim 18 wherein said at least one of said plurality of micro-devices is operable to perform bi-directional rotation of said microcomponent part presented thereto about said axis of rotation that is parallel to said substrate.

20. The system of claim 14 wherein at least one of said plurality of micro-devices is operable to rotate a microcomponent part presented thereto about an axis of rotation that is perpendicular to said substrate.

21. The system of claim 20 wherein said at least one of said plurality of micro-devices is operable to perform bi-directional rotation of said microcomponent part presented thereto about said axis of rotation that is perpendicular to said substrate.

22. The system of claim 14 wherein said substrate further comprises at least one assembly site at which at least one microcomponent part presented to at least one of said plurality of micro-devices may be assembled with another part.

23. A method for handling at least one microcomponent part for assembly with another part, said method comprising:

determining at least one of a plurality of distinct micro-devices included on a substrate to which said at least one microcomponent part should be presented for handling, wherein said plurality of distinct micro-devices are each operable to perform a rotational handling task on a microcomponent part presented thereto;

presenting said at least one microcomponent part to the determined at least one of a plurality of distinct micro-devices; and

activating the determined at least one of a plurality of distinct micro-devices to perform a rotational handling task on said at least one microcomponent part.

24. The method of claim 23 wherein said rotational handling task orients said at least one microcomponent part for assembly with said another part.

25. The method of claim 23 wherein at least one of said plurality of distinct micro-devices is operable to rotate a microcomponent part presented thereto about an axis of rotation that is parallel to said substrate.

26. The method of claim 23 wherein at least one of said plurality of distinct micro-devices is operable to rotate a microcomponent part presented thereto about an axis of rotation that is perpendicular to said substrate.

27. The method of claim 23 wherein said plurality of distinct micro-devices includes at least one micro-device that is operable to rotate a microcomponent part presented thereto about an axis of rotation that is parallel to said substrate, and wherein said plurality of distinct micro-devices further includes at least one micro-device that is operable to rotate a microcomponent part presented thereto about an axis of rotation that is perpendicular to said substrate.

28. The method of claim 23 wherein said determining step comprises determining a plurality of said plurality of distinct micro-devices included on said substrate to which said at least one microcomponent part should be presented for handling.

29. The method of claim 23 further comprising:

retrieving said at least one microcomponent part from the determined at least one of a plurality of distinct micro-devices; and

assembling said at least one microcomponent part with said another part.

30. The method of claim 23 further comprising:

determining at least one rotational handling task needed for an assembly process for assembling said at least one microcomponent part with said another part.

31. The method of claim 30 further comprising:

including on said substrate said plurality of distinct micro-devices, wherein at least one of said plurality of distinct micro-devices is operable to perform the determined at least one rotational handling task needed for said assembly process.

32. The method of claim 23 wherein said substrate further comprises at least one distinct micro-device that is operable to perform a translational handling task on a microcomponent part presented thereto, said method further comprising:

determining whether said at least one microcomponent part should be presented to said at least one distinct micro-device that is operable to perform a translational handling task.

33. A method for forming a micro-system for handling at least one microcomponent part for assembly with another part, said method comprising:

determining at least one rotational handling task needed for an assembly process for assembling said at least one microcomponent part with said another part; and

including on a substrate a plurality of distinct micro-devices that are each operable to perform a rotational handling task on a microcomponent part presented thereto, wherein at least one of said plurality of distinct micro-devices is operable to perform the determined at least one rotational handling task needed for said assembly process.

34. The method of claim 33 wherein said determining step comprises determining a plurality of rotational handling tasks needed for said assembly process.

35. The method of claim 33 wherein said plurality of rotational handling tasks comprise at least two different types of rotational handling tasks, wherein a first type of said at least two different types includes rotating said at least one microcomponent part about a first axis of rotation and wherein a second type of said at least two different types includes rotating said at least one microcomponent part about a second axis of rotation that is different than said first axis of rotation.

36. The method of claim 35 wherein said including step comprises including on said substrate at least one micro-device that is operable to rotate a microcomponent part presented thereto about said first axis of rotation and including on said substrate at least one micro-device that is operable to rotate a microcomponent part presented thereto about said second axis of rotation.